half way up the mountains and here condensation soon begins. The clouds or fog thus formed prevent further radiation from below. Hence, the dew-point is not reached at lower levels and the fog does not descend to the plain. This fog continues like the first type, but disappears as it came, by breaking up into clouds at about the elevation where it was formed. These clouds are gradually dissipated into the surrounding air. Between these two types there is every gradation.

THE RAINFALL OF THE EUPHRATES BASIN.

In connection with the rainfall of Harpoot, attention should be called to that of the Euphrates basin as a whole, including its two great branches, the Tigris and the Karun rivers, which join it to form the Shat-el-Arab. The figures given by the few authorities that it has been possible to consult are as follows:

Chambers's Encyclopedia: Area of basin of Shat-el-Arab, 108,000 square miles.

Alden's Encyclopedia: Area of basin of Shat-el Arab, 108,000 square miles.

Redway and Hinman; Natural Advanced Geography: Area of basin of Shat-el-Arab, 490,000 square miles.

Redway and Hinman: Total annual rainfall, 60 cubic miles.

Redway and Hinman: Average annual rainfall, 7.8 inches.

Guyot, as quoted in Johnson's Encyclopedia: Area of basin of Shat-el-Arab, 255,000 square miles.

Maury; Manual of Geography: Area of basin of Shat-el-Arab, 250,000 square miles.

The last two authorities seem to be nearly correct, although a careful estimate of the area as given on Kiepert's map gives a total of 305,000 square miles. This latter figure includes two areas which may have been left out in the other estimates. The first is the basin of Lake Van, which has an area of 8,500 square miles. The lake has no visible outlet. It lies between the upper waters of the Tigris and Euphrates rivers, and is steadily rising, so that in time it will probably overflow to one of them. The other area which may have been omitted is part of Arabia, which belongs to the basin, although its rainfall all evaporates before reaching the river.

Data as to the rainfall of the Euphrates basin are very scanty. Redway and Hinman give the average annual 7.8 inches. The following are all that it has been possible for me to obtain:

Stations.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Annual.
Harpoot	1.32	2.74	4.53	2.15	1.82	0.92	0.01	0.02	0.17	2.55	0.80	2.99	20.02
Aintab	3.56	3.48	2.91	2.48	1.38	0.21	0.08	0.02	0.02	0.82	3.32	4.55	22.71
Mosul	3.19	2.36	1.54	1.58	0.24	0.04	0.00	0.00	0.00	0.51	0.67	3.05	12.18
Baghdad	1.57	2.48	1.93	1.18	0.28	0.02	0.00	0.12	0.02	0.04	1.02	1.97	10.63
Marsovan	1.14	1.29	2.02	2.67	2.68	2.95	0.40	1.24	0.47	1.78	1.04	1.33	19.01
Bushire	3.39	2.52	0.87	0.59	0.02	0.00	0.00	0.00	0.00	0.12	2.16	3.70	13.37

Of these six places the last two are not included in the Euphrates basin, but as they are comparatively near they have been inserted for comparison. The higher eastern parts of the Taurus and Anti-Taurus ranges near Van and Mush have a decidedly heavier precipitation than the western part. The 305,000 square miles which drain to the Shat-el-Arab may be roughly divided into four sections, as follows:

I. Mesopotamia from east of the Persian frontier to the Arabian Desert. Area, 165,000 square miles. Average annual rainfall, 12 inches. Total quantity of water, 32 cubic miles. The mountainous eastern part of this region receives more than 12 inches and the western part toward the desert less.

II. The southern and eastern part of the Zagros Mountains and Mesopotamia from Jesireh to Diarbekir. Area, 60,000 square miles. Average rainfall, 16 inches. Total quantity, 15 cubic miles.

III. Central part of Zagros Mountains and western part of Taurus and Anti-Taurus Mountains, including Aintab, Diarbekir, Harpoot, etc. Area, 42,000 square miles. Average rainfall, 21 inches. Total quantity, 14 cubic miles.

IV. Taurus and Anti-Taurus Mountains northeast of a line from Egin to the mountains south of Bitlis. Area, 38,000 square miles. Average rainfall, 24 inches. Total quantity, 15 cubic miles.

Sum: Total area, 305,000 square miles. Average rainfall, 15.9 inches. Total quantity of water, 76 cubic miles.

This estimate may be modified in two respects. The lack of rain on the border of the Arabian Desert may reduce the average for Mesopotamia to less than 12 inches. The heavy precipitation on the mountainous district around Lake Van may increase the average for the fourth division. Until further data are procured the two may be regarded as offsetting each other.

CLIMATOLOGICAL DATA FOR JAMAICA.

Through the kindness of Mr. Maxwell Hall, the following data are offered to the MONTHLY WEATHER REVIEW in advance of the publication of the regular monthly weather report for Jamaica:

Jamaica, W. I., climatological data, June, 1901.

	Negril Point Lighthouse.	Morant Point Lighthouse.
Latitude (north)	18° 15′	17° 55′
Longitude (west)	78° 23′	76° 10′
Elevation (feet)	33	8
Mean barometer 7 a. m.	29.913	29.918
Mean barometer 3 p. m.	29.886	29.895
Mean temperature 7 a. m	79.8	.....
Mean temperature 3 p. m	81.6	.....
Mean of maxima	86.5	.....
Mean of minima	74.6	.....
Highest maximum	89.0	.....
Lowest minimum	70.0	.....
Mean dew-point 7 a. m	73.5	.....
Mean dew-point 3 p. m	74.9	.....
Mean relative humidity 7 a. m.	81.0	.....
Mean relative humidity 3 p. m.	80.0	.....
Total rainfall (inches)	9.51	13.00
Average wind direction 7 a. m	ese.	e.
Average wind direction 3 p. m	se.	e.
Average hourly velocity, miles 7 a. m	9.3	9.0
Average hourly velocity, miles 3 p. m	11.9	13.0
Average cloudiness (tenths):		
7 a. m. Lower clouds	1.5	3.1
7 a. m. Middle clouds	2.0	2.4
7 a. m. Upper clouds	3.6	1.2
3 p. m. Lower clouds	5.6	3.0
3 p. m. Middle clouds	3.1	2.3
3 p. m. Upper clouds	0.7	1.1

NOTE.—The pressures are reduced to standard temperature and gravity, to the Kew standard, and to mean sea level. The thermometers are exposed in Stevenson screens.

Comparative table of rainfall for each geographical division.

Divisions.	Relative area.	Number of available stations.	Rainfall. Average for May.	Rainfall. Current for May, 1901.
Northeastern division	25	22	8.05	17.52
Northern and subcentral division	22	55	4.51	8.23
Western-central division	26	26	8.02	14.95
Southern division	27	31	4.70	15.39
General means			6.32	14.03

In taking the average rainfall Mr. Hall uses only those stations for which he has several years of observation, so that the column of averages represents fairly well the normal rainfall for each division, while the column for the current month represents the average rainfall at those same stations. The relative areas of the division is very nearly the same and is given in the following table as expressed in percentages of the total area of Jamaica. The number of rainfall stations utilized in each area varies slightly from month to month, according as returns have come in promptly or not, but will not differ greatly from the numbers in the second column of the table.